CMD-J5

SERVICE MANUAL

AEP-Model
UK-Model

SPECIFICATIONS

Signalling format	Dual-Band		
Frequency range	E-GSM 900 MHz,	Transmit:	880 ~ 915 MHz
		Receive:	925 ~ 960 MHz
	DCS 1800 MHz,	Transmit:	1710 ~ 1785 MHz
		Receive:	1805 ~ 1880 MHz
GSM power class	Class 4 (2W)		
DCS power class	Class 1 (1W)		
SIM chip	3V and 5V Pluggable mini SIM card		
Display	High resolution full graphics display		
	4 Grey-scale type		
	Resolution: 96 x 92 pixels		
	9 lines, proportional font		
Channel spacing	200 kHz		
Number of channels	E-GSM: 174		
	DCS: 374		
Frequency stability	Transmit frequency drift (synchronized)		
	< ± 0,1 p.p.m		
RF output power	GSM: 2W		
	DCS : 1W		
Battery life	Standby :	30h -150h	standard battery
		41h -206h	extended battery
	Talk time :	2h15 - 6h	standard battery
		3h00 - 8h	extended battery
Dimensions	123 mm x 42 mm x 15 mm³		
Weight	85 g		
Volume	81 cm³		

PORTABLE DIGITAL CELLULAR TELEPHONE WITH ACCESSORIES

SONY®

Power requirements	3.7 V (nominal)	
Operating temperature	-10ºC to +55ºC	
Accessories operating temperature	± 0ºC to +45ºC	
Connectors	External RF connector	
	Bottom Connector (12-pin flat I/O connector)	
	Mini plug head set jack	
WAP	Supported protocols by the WAP v.1.1 compliant browser:	
	Wireless Session Protocol (WSP)	
	Wireless Caching Model	
	Wireless Transaction Protocol (WTP)	
	Wireless Control Message Protocol (WCMP)	
	Wireless Markup Language (WML)	
	Wireless Markup Language Script (WMLS)	
	Wireless Bitmap (WBMP)	
	Wireless Transport Layer Security (WTLS Class1)	
	Wireless Telephony Application Interface (WTAI)	
Email	Supported by the e-mail protocols:	
	SMTP	
	POP 3	
Supplied accessories	AC Adapter	QN-3AC1 (AEP)
	AC Adapter	QN-3AC2 (UK)
	Battery (std.)	QN-J5BPS
Optional accessories	Battery (extd.)	QN-J5BPE
	HFK Main Unit	QN-3HFK
	HFK Cradle	QN-J5CH
	Cigar Lighter Charger	QN-3CC
	Data Cable RS	QN-3RS
	Data Cable USB	QN-3USB
	Mobile Data Software	QN-3DS
	Headset	QN-3HS

Design and specifications are subject to change without notice.
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

NOTE

This device contains electrostatically sensitive components. Damage can occur to these components if the appropriate handling is not adhered to.

ESD Handling precautions:

A working area in which Digital Cellular Telephones may be safely handled without undue risk of damage from electrostatic discharge must be available.

<u>The area must be equipped as follows:</u>

- All working surfaces must have a dissipative bench mat, safe for use with live equipment, connected via 1.2MΩ resistor to a common ground point.
- A quick release skin contact device with a flexible cord, which has a built-in safety resistor of a range between 5.2KΩ and 1.2MΩ shall be used. The flexible cord must be attached to a dissipative earth point.
- All containers and storage must be of the conductive type.

Batteries:
This device contains an internal battery in addition to the external battery pack. These batteries are recyclable and should be disposed of in accordance with national legislation. They must not be incinerated, or disposed of as ordinary rubbish.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Discard used batteries according to the manufacturer's instructions.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt gällande föreskrifter.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

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SECTION 2
GENERAL DESCRIPTIONS

2.1 Multi-band :

CMD-J5 support E-GSM 900 and DCS 1800 multi-band functionality.

For the use in Europe and in other countries worldwide, ETSI has specified GSM standards into two frequency bands. That is the 900-MHz and 1800-MHz band and is usually referred to as GSM900 and GSM1800 (formerly DCS1800).
While the 900-MHz band has 124 channels (extended version: 175), the 1800-MHz band with its 375 channels provides a three-times higher capacity. Not only as a result of this large range of channels but also due to the low transmission power and the transmission distance, GSM1800 supports a higher quantity of RF-channels.
The Dual band technology enables a network operator with spectrum at both 900MHz and 1800MHz to support the seamless use of dual band handsets across both frequencies. By supporting seamless handovers between 900MHz and 1800MHz, Dual band networks can provide major benefits in terms of capacity enhancement and revenue optimisation through the introduction of new services.

The CMD-J5 is a phase II, GSM 900 class 4, DCS 1800 class 1 mobile phone.
The nominal maximum output power for GSM 900 is 2W, for DCS 1800 1W.
It supports the extra functionality required for multi-band mobile stations: Inter-band/"seamless" hand-over, channel assignment, cell selection and re-selection, all between both bands within a **P**ublic **L**and **M**obile **N**etwork.
The manual and automatic PLMN selection in both bands is given.

The user does not need any special action to use the multi-band functionality of the phone.
Users are able to manually roam between PLMN's operating in GSM 900 and DCS 1800 bands.

E-GSM

With the further development of the GSM standard, an additional range of frequencies has been made available to the "Global system for mobile communications". For each of the two duplex frequency ranges, one for the forward direction and one for the reverse direction, additional 10 MHz have been added to the bottom end of the bands, extending the frequency range to 50 further channels.
The mobile station transmits in the 880- to 915 MHz range, and the base station transmits in the 925- to 960 MHz range. A duplex spacing of 45 MHz is used, the base station always transmits on the high side of the duplex frequency pair.
The numbering for these additional channels is from 974 to 1023. This is done to avoid assigning one channel number twice within the same standard.
Compared to the primary GSM system, Channel number 0 is used in the extended GSM system, since it does not make sense to reserve it at a guard band within the E-GSM bands. Now, the lowest channel, number 974 (880.0 MHz), serves as the guard band between GSM and other services on lower frequencies.

DCS 1800

DCS-1800 uses the frequency ranges of 1710 to 1785 MHz in the uplink direction, and 1805 to 1880 MHz in the downlink direction.
From these figures it follows that the duplex spacing is 95 MHz with 374 channels with bandwidths of 200 kHz each.
The channels are numbered from 512 to 885 in order to distinguish them from the channels in the primary and extended GSM frequency bands.

2.2 Radio Frequency Power Levels:

Between the DCS 1800 and both GSM Systems are differences regarding the power level. DCS 1800 basically needs lower power levels. If the performance of a MS for GSM system was certified of 2W (Power Class 4), then in the DCS-1800 system it is only 1W (Power Class 1). There are also reduced BTS power levels due to microcell applications, which means instead of the 40W (Power Class 4) in the GSM system DCS 1800 needs only 20W (Power Class 1).

Preferences	GSM 900	E-GSM	DCS 1800
Frequency band uplink: downlink:	MHz 890 - 915 935 - 960	MHz 880 - 915 925 - 960	MHz 1710 -1785 1805 - 1880
Radio Channels	124	174	374
max. BS-Power	40 W (46 dBm)		20W (43 dBm)
max. MS-Power	2 W (33 dBm)		1W (30 dBm)

2.3 Speech Codec

The CMD-J5 supports the following speech codecs.

- *Full Rate (FR) Codec*
- *Half Rate (HR) Codec*
- *Enhanced Full Rate (EFR) Codec*

The speech codec forms the human voice into a digital signal, which is sent in the GSM network.
The GSM system currently has three different speech codec standards.
At first, the Full Rate (FR) Codec was introduced. With new requirements concerning speech quality and availability of radio channel resources two further standards were introduced, the Half Rate (HR) Codec and the Enhanced Full Rate (EFR) Codec. The Half Rate (HR) Codec requires only half the channel capacity of a Full Rate (FR) Channel. The Enhanced Full Rate (EFR) Codec requires the same radio channel resources as a Full Rate (FR) Codec but offers Fixed Line quality with superior vocal clarity.

2.4 Languages

The CMD-J5 supports the following languages:

• Bulgarian	• French	• Portugese
• Croatian	• German	• Romanian
• Czech	• Greek	• Russian
• Danish	• Hungarian	• Slovakian
• Dutch	• Italian	• Spanish
• English	• Norwegian	• Swedish
• Finnish	• Polish	• Turkish

2.5 Battery Charging

There is no charging circuitry in the battery pack. The CMD-J5 has complete charger function internally.

The telephone can be charged only with the battery connected the phone. This situation can be sub-divided into two situations: the phone is on or off. It can be charged with the AC Adapter, Travel Charger or Cigar Lighter Charger.

The battery symbol is used to indicate the charging, and to indicate when the battery is fully charged. This is done using the following sequence of icons:

The uncharged segments of the battery are moving in a right to left manner until the charging stops. The sequences for each charging level is repeated until the battery is charged to that level.

When the charging sequence is finished the flashing of the battery level sign stops.
The phone shows the full-battery icon.

2.6 Battery Safety

The battery pack contains a single Li-ion cell, a safety circuitry and, in addition, a microprocessor unit which manages RTC information by reading out the binary counter value in the microprocessor. The charging circuitry and the safety circuitry together guarantee a double fail-safe battery pack. This means that each component can be either short or open and still all the safety requirements will not be violated.

The safety concept protects against:
Over voltage: The charging is stopped when Battery Voltage (Vbat) reaches 4.25V- 4.3V. The charging resumes when Vbat falls below (4.025V - 4.125V).

Under voltage: When the cell voltage drops below 2.242V – 2.358V the cell is disconnected for discharging.
Charging is still possible.

Current fuse: Finally, if all protection functions are out of order due to abnormal condition, the current fuse protects the device from explosion and fire with melting. The fuse melts 10A during 1 second.

2.7 Battery Capacity:

Standard Battery 640mAh typical Li-ion QN-J5BPS
Extended Battery 920mAh typical Li-ion QN-J5BPE

The phone can be charged even during making phone calls.
However, the shortest charging time will be reached when the phone is switched off.

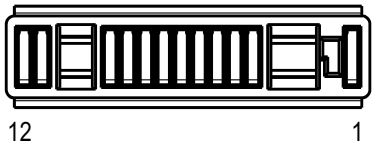
2.8 Accessory interface

The table explains what kind of pins the phone supplies to the different accessories.

Pins	GND **1**	Charge **2**	GEN I/O **3**	Power OUT **4**	RX (IN) **5**	TX (OUT) **6**	ACC ID **7**	RS232 RTS **8**	RS232 CTS **9**	Audio Out **10**	Audio IN **11**	AGND **12**
Charger	√	√										
CLC	√	√										
HFK	√	√		√			√			√	√	√
Data Cable RS	√		√	√	√	√	√	√	√			
Data Cable USB	√		√	√	√	√	√	√	√			

Connector layout

Connector view from base of phone



The connector comprises the following pins:

Audio

Audio In, Audio Out and Audio GND:

Audio IN:
Is a single ended input with a maximum sensitivity of 365 mVrms.
Audio OUT:
The single ended output delivers 0.8Vpp into a 1kΩ load.

These two signals are referred to as AGND.

RS232 Interface

5-pin interface: RX, TX, RTS(RFR), CTS and Gen I/O(DTR or DCD):

This is the communication interface to the Data cable “QN-3RS/USB”.
Pin 3 is connected to a general IO pin on the baseband digital chip. The functionality can be assigned on an accessory by accessory basis to be input, output or interrupt.

Charge

The Charge pin represents the positive contact for the charging funtionality.

GND

The Ground pin represents the digital interface and charger return current.

ID

This pin shows the presence of an accessory and is also an analog ID for the accessory. Accessories which provide charger functionality only do not support this pin and their presence is detected with a valid charger voltage.

Power Out

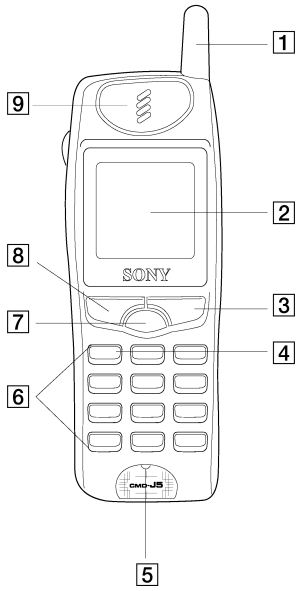
Power-out has a different functionality with different accessories.
In the car-kit environment the ext. Vbat indicates that a phone call is accepted/in progress. This information is used by the car-kit to power up the audio section of the car-kit, mute the car stereo and keep the car-kit powered up even when the ignition is switched off.
Due to the fact that the ID of the accessory is detected first, the ACC power is not current limited (protected).

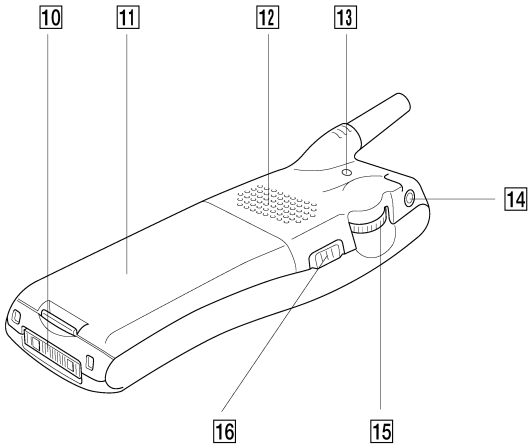
SECTION 3
OPERATING INSTRUCTIONS

3.1 The Basic Features of the CMD-J5

- **Parts and Controls**

This section provides a brief guide to the operation and facilities available on the CMD-J5. Refer to the Operating Manual for full operational information.

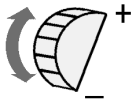
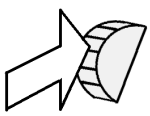




1	**Antenna**
2	**Display**
3	**On/Off Key, Call End Key, Clear Key**
4	**Voice Mail Key**
5	**Microphone**
6	**Keypad (alphanumeric keys)**
7	**Centre Key**
8	**Send Key**
9	**Ear piece**
10	**External connector (Charging and Accessories)**
11	**Battery**
12	**Loudspeaker**
13	**External Antenna Connector**
14	**Headset Connector**
15	**Jog Dial**
16	**Side Switch**

- **The Jog Dial**

The Jog Dial provides fast and easy menu navigation with only one hand.

Operation Function		Function
Rotate		Scrolls through menu options. Opens Phonebook in Standby Mode
Press (click)		Opens Menu in Standby Mode. Selects an option (highlighted) in the display.
Press and Hold		Dials the phone number selected.

- **The Centre Key**
  - ❖ Press the Centre Key in standby mode to access the WAP mode if WAP settings are configured.
  - ❖ During a call, press the Centre Key to access the Call Menu.
  - ❖ In Sub-menus, access/exit the help function by pressing the Centre Key

- **The Voicemail Key**
  - ❖ Press and hold 1 to access your Voicemail

- **The Side Switch**
  - ❖ In standby mode, slide the switch up to activate/deactivate the manner modes.
  - ❖ Afterwards, it is possible to switch among the manner mode functions. All manner mode icons appear in the display; rotate the Jog Dial to select one:
    - — Silent Mode :turns the ringer and all tones to silent mode.
    - — Ringer to Single beep :ringer is restricted to a discrete single beep.
    - — Vibra Alert :Vibra Alert without the ringer.
  - ❖ For your convenience, sliding the side switch up in standby mode will toggle between the two last settings.
  - ❖ In standby mode, slide the switch down to lock/unlock your keypad (including Jog Dial). It is still possible to make emergency calls (112) as well as answer/reject an incoming call (by pressing /) when the keypad is locked.
  - ❖ During a call, turn the loudspeaker on by sliding the switch up once. Turn the loudspeaker off by sliding the switch up again.
  - ❖ During an incoming call, stop the ringer by sliding the side switch up.
  - ❖ During a game, stop/start the backround sound by sliding the side switch up.

3.2 Security Codes

CODE TYPE	NUMBER OF DIGITS	DESCRIPTION
PIN Personal Identification Number	4 to 8	Controls SIM security. Supplied by the Service Provider !
PIN 2	4 to 8	Controls memory security. Supplied by the Service Provider !
PIN / PIN 2 Personal Unblocking Key (PUK / PUK 2)	8	Used to unblock PIN and PIN 2. A PIN or PIN 2 will become blocked if the wrong PIN or PIN 2 is entered three times. When the blocked PIN or PIN 2 is unblocked, a new PIN or PIN 2 must be entered. If the wrong PUK or PUK 2 is entered 10 times, the SIM card will be unusable. Supplied by the Service Provider !
Bearing Password	4	Controls the call bar function. If the wrong password is entered three times, this service will be revoked. Supplied by the Service Provider !
Security Code	4 to 8	Controls the access to wap-and e-mail settings. The default Security Code is: 0000 Refer to Section 5 “Programming Instructions”

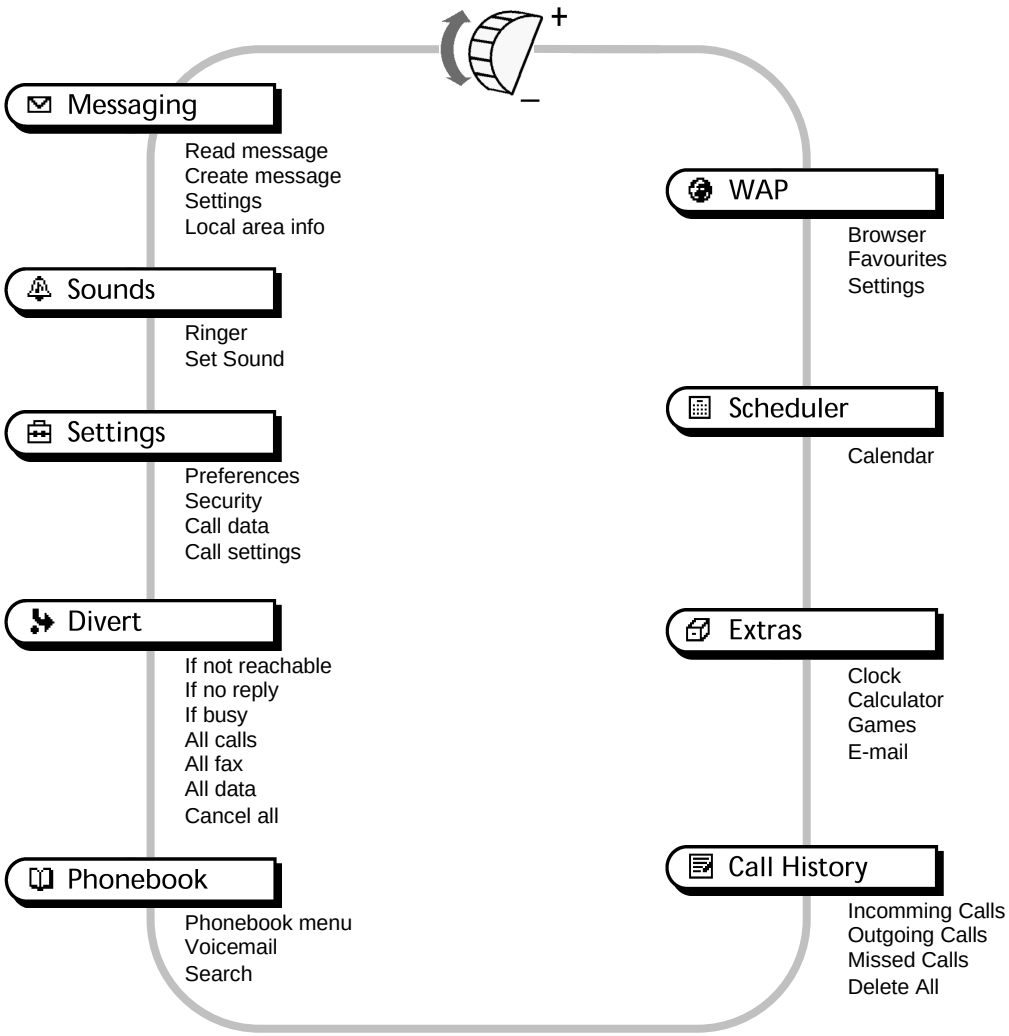
3.2 Icon Glossary

ICON	Explanation
	Network not available
	Network signal strenght (strong)
	Battery strength
	SMS (Envelope Icon)
	Voicemail
	Keypad locked
	Alarm
	Silent Mode
	Vibra Alert
	Single Beep
	Ringer off
	Conversation Privacy (ciphering) not supportet

ICON	Explanation
	Missed calls
	Incoming call barring
	Outgoing call barring
	Incoming + Outgoing call barring
	Conditional Divert
	Unconditional Divert
	Active call
	Call hold
	Mute Microphone
	Headset connected
	Handsfree Kit connected
	Loudspeaker on

3.3 Menu Overview

Press the Jog Dial from standby mode to acess the Main menu:



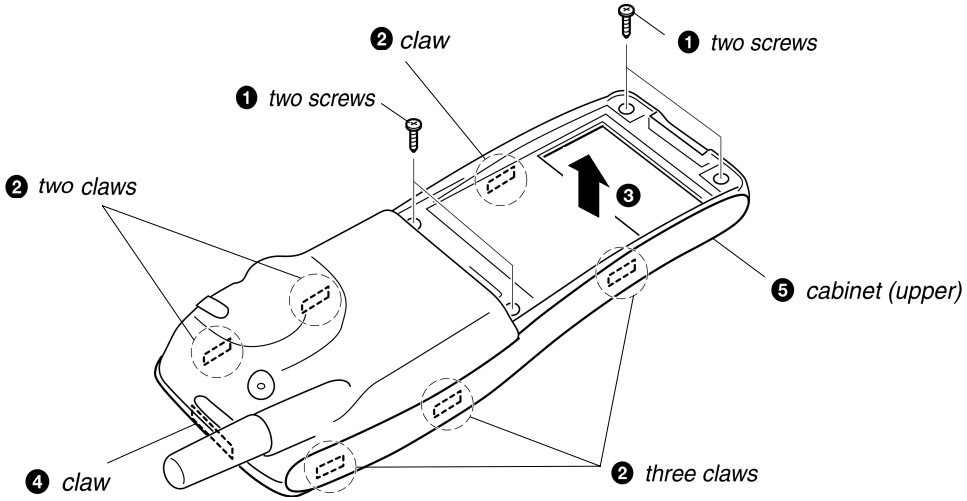
SECTION 4
DISASSEMBLY

IMPORTANT NOTE :

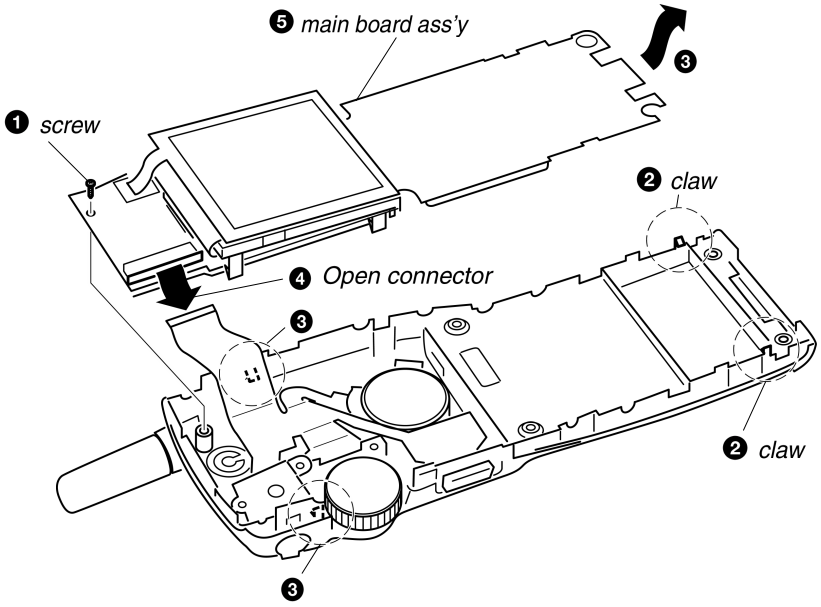
The IMEI number is the electronic identification of the hardware, which is stored electronically. There should be no discrepancy between the number on the sticker and the number within the set memory allowed.
In case of replacing the lower cabinet it is to make sure that the IMEI Sticker mounted on the lower case (visible from the battery compartment) will be replaced to the new housing part as well.

Follow the disassembly procedure in the numerical order given.

CABINET UPPER

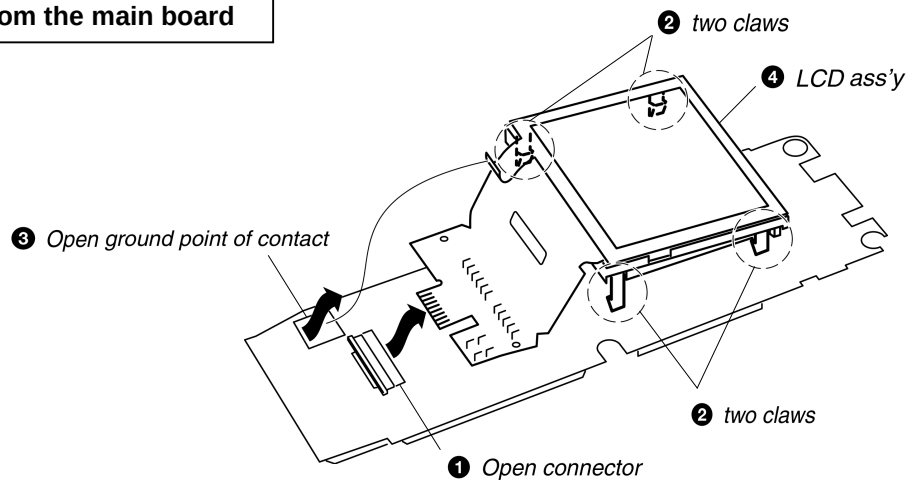


MAIN BOARD ASS'Y

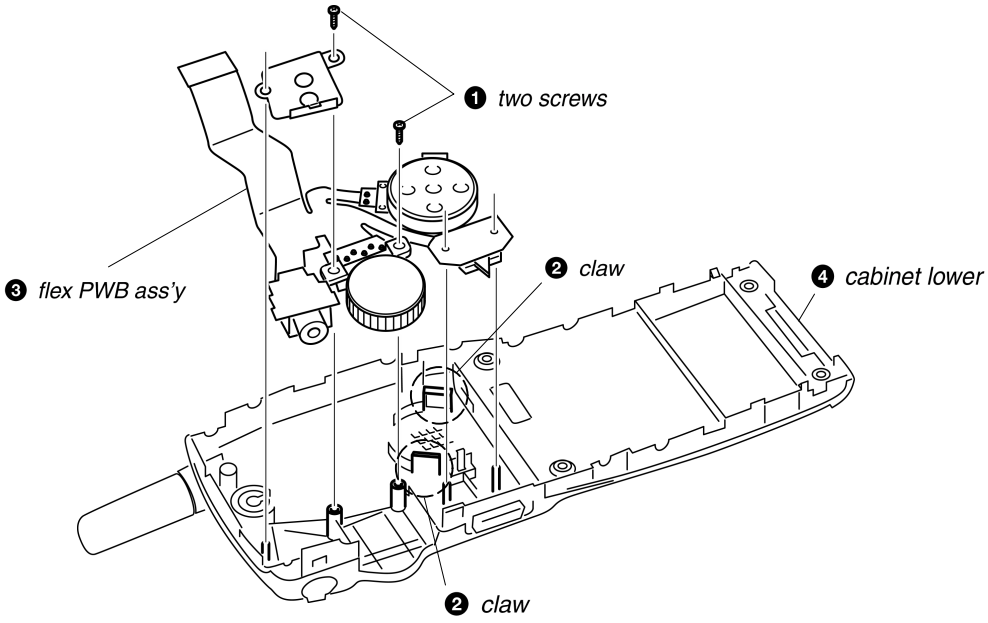


LCD

IMPORTANT:
Do not detach the shield case from the main board



CABINET LOWER

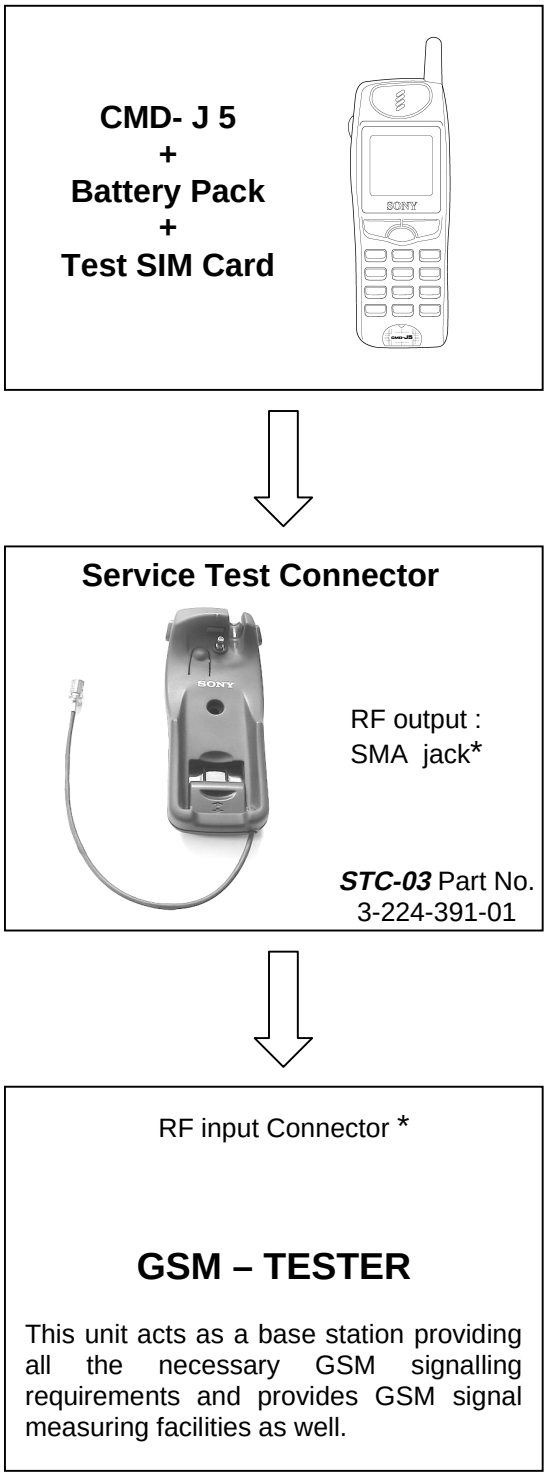


Re-assembly procedure :

To re-assemble the unit, apply the reverse order of the above mention disassembly procedure.

4.2 Interface to GSM-Tester

Test Set Up for CMD-J5 Level 1 Testing



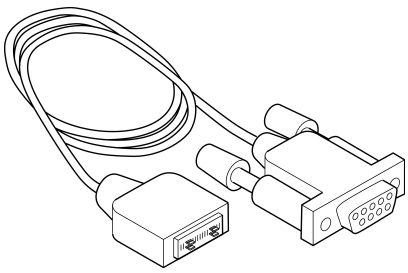
* Use special RF-Adapter for connection of ***STC-03*** to your GSM –Tester !

Level Test Procedure with GSM TESTER recommendation:

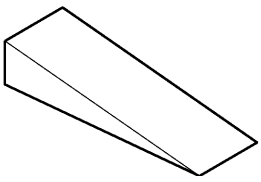
- Simulate GSM call processing – to check the functionality of transmitting and receiving audio signals of loudspeaker and microphone.
- Basic GSM transmission & reception parameter testing – to ensure that handset's performance compiles with standard GSM specification.

4.3 Jigs & Tools

Description	Part No	Remark
DATA TRANSFER CABLE ***DTC-04***	1-757-348-11	Necessary For Software Update
HOOK RELEASE JIG	3-043 180 01	For Housing Opening
SERVICE TEST CONNECTOR ***STC-03***	3-224 391-01	For Connection To GSM Measure Equipment



DATA TRANSFER CABLE



HOOK RELEASE JIG

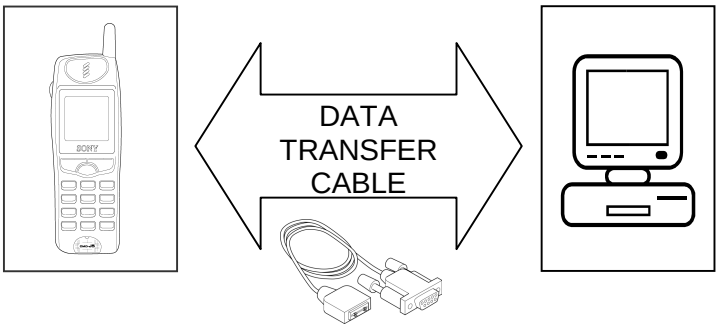
SERVICE TEST CONNECTOR

Section 5
PROGRAMMING INSTRUCTIONS

5.1 Requirement

- PC (486 type or higher) with Microsoft “Windows” Operating System
- One COM-port free for usage
- The Data Transfer Cable (p/n 1-757-348-11)

PREPARATION FOR SOFTWARE UPDATE



5.2 Hardware set-up

- Copy all the files to the PC (define own directory).
- Connect the Data Transfer Jig to the PC COM-port (COM 1 or COM 2) and the CMD-J5 external connector.
- Attach battery pack to CMD-J5; the CMD-J5 is powered up from the battery pack.
- The initial settings of the flash.exe program may not correspond with the normally correct settings. It is highly advisable to check the settings first (see 5.3 Software set-up).

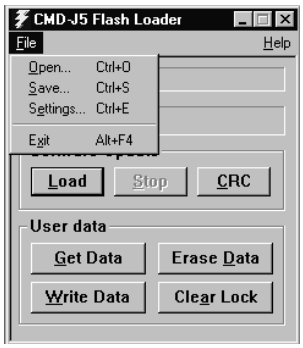
5.3 Software set-up

5.3.1 ∗ *Download Software to Mobile (Software Update)*

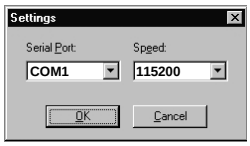
J5 Flash.exe

- Start the program flash.exe by double-clicking on its icon in the Windows Explorer.

- Select “file”/”Settings…” and check if the settings for the “Com Port”and “Speed” are correct.



  - The FlashLoader automatically detects all available Com ports on the PC. (COM 1 or COM 2)
  - Baud rates up to 812500bps will be supported, but standard PCs, unless it is correctly customised (i.e. with a Fast Serial Board), will not support Baud rates > 115200bps.
  - The default values are



- Click on the “Load” button and select an SRE file for downloading.
  - The CMD-J5 software is located in the J5.SRE file.
  - Any other SRE file is either only needed for the program itself, or can be a personal data file.

    ***Note**: If a “flash.sre” file appears, please mind that this is application software (do not use / modify)*

  - Flash erase area is automatically calculated with the contents of the file.
- Switch on the CMD-J5.
- Now the program runs automatically.

5.3.2 ∗ *Save Personal Data in Mobile (Get Data / Write Data)*

The set-up and all requirements for this data transfer are the same as for the software update.

- Check if the settings for the “Com Port” and “Speed” are correct.
- Click on “Get Data”.
- Switch on the CMD-J5.
- When the read data is downloaded either reload it in another mobile (reconnect a new mobile and click on “Write Data”) or save it on the disc using File/Save option.

5.3.3 ∗ *Reset of Personal Data (Erase Data)*

The set-up and all requirements for this data transfer are the same as for the software update.

- Check if the settings for the “Com Port” and Speed” are correct.
- Click on “Erase Data”.
- Switch on the CMD-J5.
- All individual settings (such as Phonebook entries and WAP settings etc.) will be deleted.

5.3.4 ∗ *Reset of Security Code Lock (Clear Lock)*

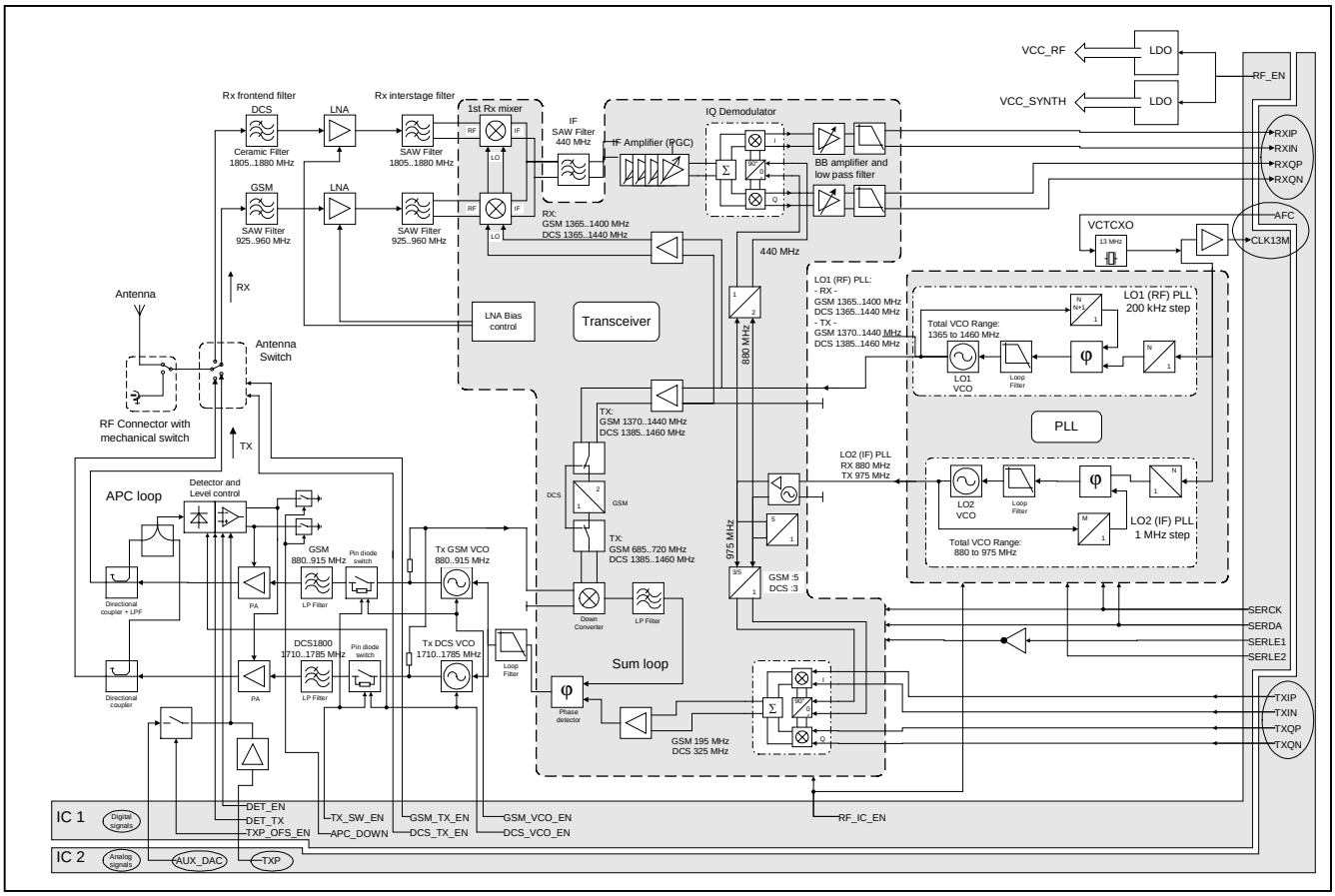
The set-up and all requirements for this data transfer are the same as for the software update.

- Check if the settings for the “Com Port” and Speed” are correct.
- Click on “Clear Lock”.
- Switch on the CMD-J5.
- The individual Security Code will be reset to the default setting: 0000 !

For any of the above stated functions, follow the instructions written in the status bar (the first one from the top).
Follow up the progress of the up/download process by checking the Progress bar (the second one from the top).

SECTION 6
DIAGRAMS

6.1 Radio Frequency (RF) Block Diagram



6.1.1 General

The radio part of the CMD-J5 handles the air interface according to the GSM specifications. It is the main contributor for the dualband functionality for E-GSM 900 and DCS 1800.

Receiver

The receiver consists of two separated RF paths for GSM and DCS 1800 each.

On the transmission line between the antenna switch of the RF part and the antenna there is the RF connector including a mechanical switch to connect an external antenna for accessory use. The integrated mechanical switch switches between the helix antenna and the external RF antenna connection. As long as a plug is connected the antenna is deactivated and all RF signals go across the connector.

The GMSK (Gaussian-filtered minimum shift keying) modulated 900 MHz / 1800 MHz signal received by the antenna is filtered, gained and downconverted into the baseband via an intermediate frequency of 440 MHz.

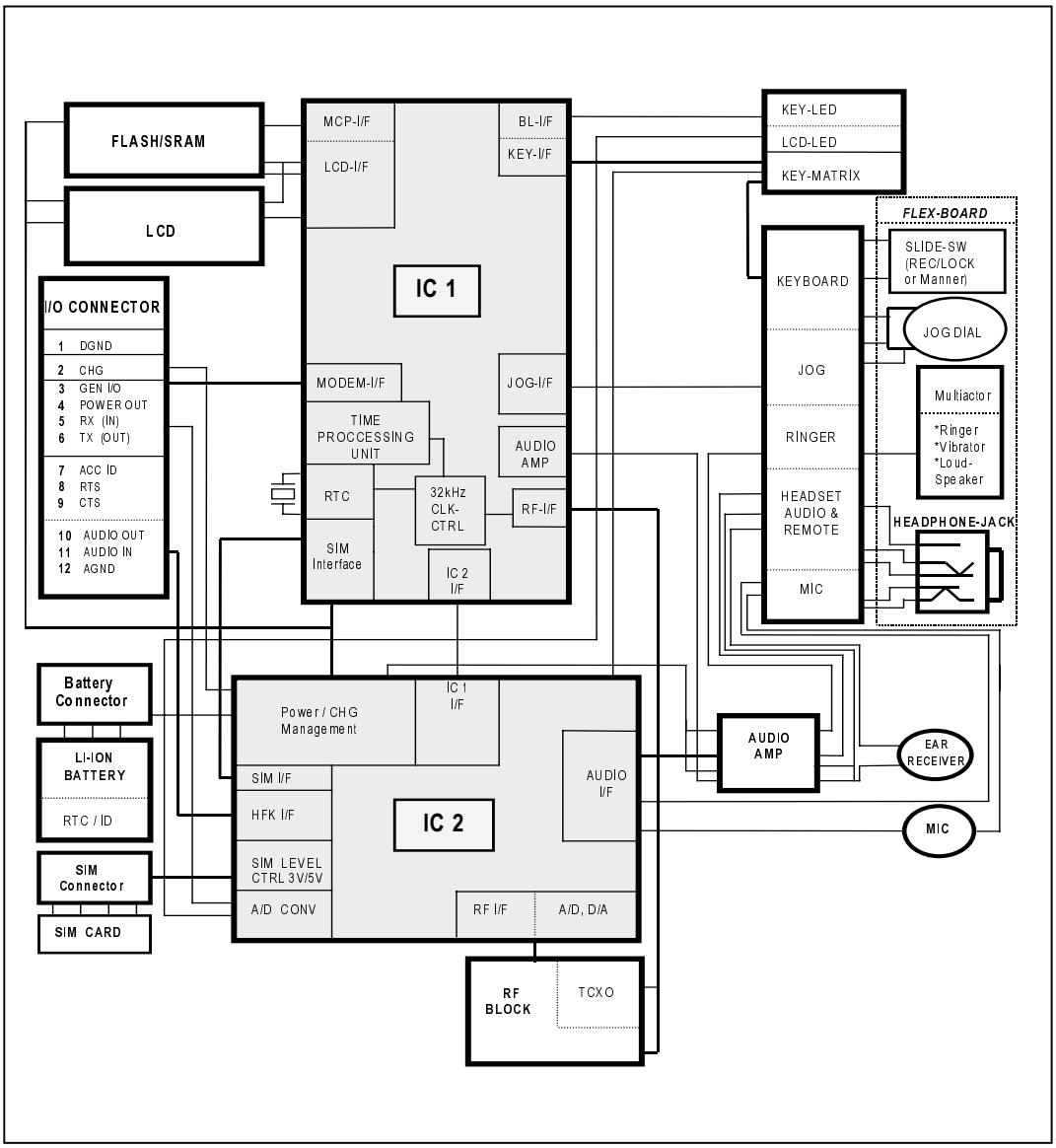
The 440 MHz filter is followed by a tuneable amplifier and IQ demodulator. Behind the demodulator there are additional base band amplifiers and low pass filters.
The In Phase (I) and Quadrature (Q) signal outputs are balanced each.

A 13 MHz voltage-controlled-temperature-compensated crystal oscillator (VCTCXO) generates the clock frequency for the PLL and baseband part.

Transmitter

In the transmit direction the digitally GMSK-modulated baseband signal is upconverted to the transmit frequency in the 900 MHz / 1800 MHz band via an intermediate frequency of 195 MHz (GSM) / 325 MHz (DCS 1800) by means of an IQ modulator and the subsequenting sum loop.
All RF and IQ signals are balanced signals in order to suppress crosstalk effects. According to GSM recommendations transmitter and receiver are never active at the same time.
(TDMA system “Time Division Multiple Access”).

6.2 Baseband Block Diagram



6.2.1 General

The Baseband part consists of two chips, a digital chip IC 1 and an analog one IC 2.
The CMD-J5 external memory size is 32 Mbits Flash ROM and 4 Mbit SRAM.

IC 1

The application of IC 1 is the management of the GSM baseband processes through the GSM layer 1, 2 and 3 protocols as described in the ETSI standard with a specific attention to the power consumption in both GSM dedicated and idle modes.

It is a chip that implements:

- the digital baseband processes of the CMD-J5 and combines a Digital Signal Processing (DSP) with its program and data memories,
- a Micro-Controller core with emulation facilities and an internal RAM memory,
- a clock squarer cell,
- several compiled ports and equivalent CMOS gates.

Full support for Full-Rate, Enhanced Full-Rate and Half-Rate speech coding is given.

IC 2

IC 2 is the platform of the A/D-D/A converter for the interfacing and processing of baseband I/Q signals and voice signals.

It includes:

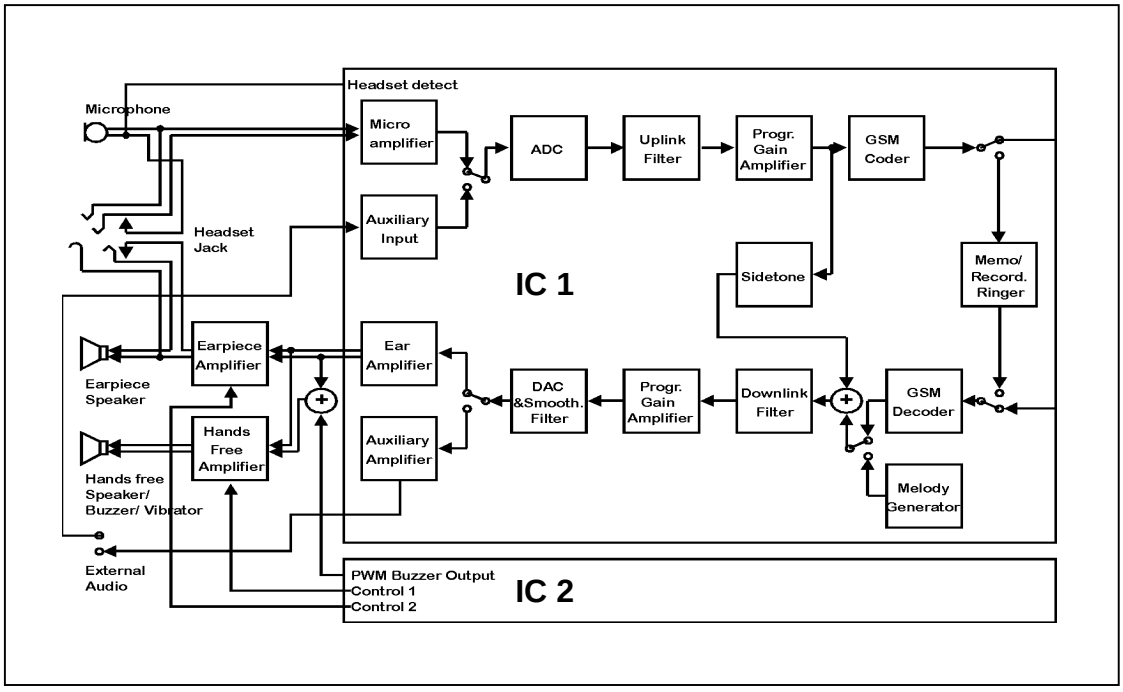
- the complete set of baseband functions to perform the interface and processing of voice signals,
- interface for processing of baseband components as In Phase (I) and Quadrature (Q) signals which support single slot and multi slot mode,
- associated auxiliary RF control features,
- supply voltage regulation,
- battery charging control and
- switch ON/OFF system analysis.

Further, IC 2 includes also on chip voltage reference, under voltage detection and power -on reset circuits.

IC 2 interfaces with the digital baseband device through a set of digital interfaces dedicated to the main functions of IC 1:

1. A baseband serial port (BSP) and a voiceband serial port (VSP) to communicate with the DSP.
2. A micro- controller serial port (USP) to communicate with the micro contoller core of IC 1.
3. A time serial port (TSP) to communicate with the processing unit for real time control.

6.3 Audio Block Diagram



6.3.1General

Multiactor (Loudspeaker /Ringer Vibrator)

This device is a combined electrodynamic vibration exciter with an additional membrane to improve frequency response and enhance ringer level.

The system is tuned to the vibration frequency around 130 Hz.

Headset Connector (Headphone Jack)

The headset is connected directly to the circuit to the built in microphone and earpiece. The connector is a 4-pole jack with 2 switches.

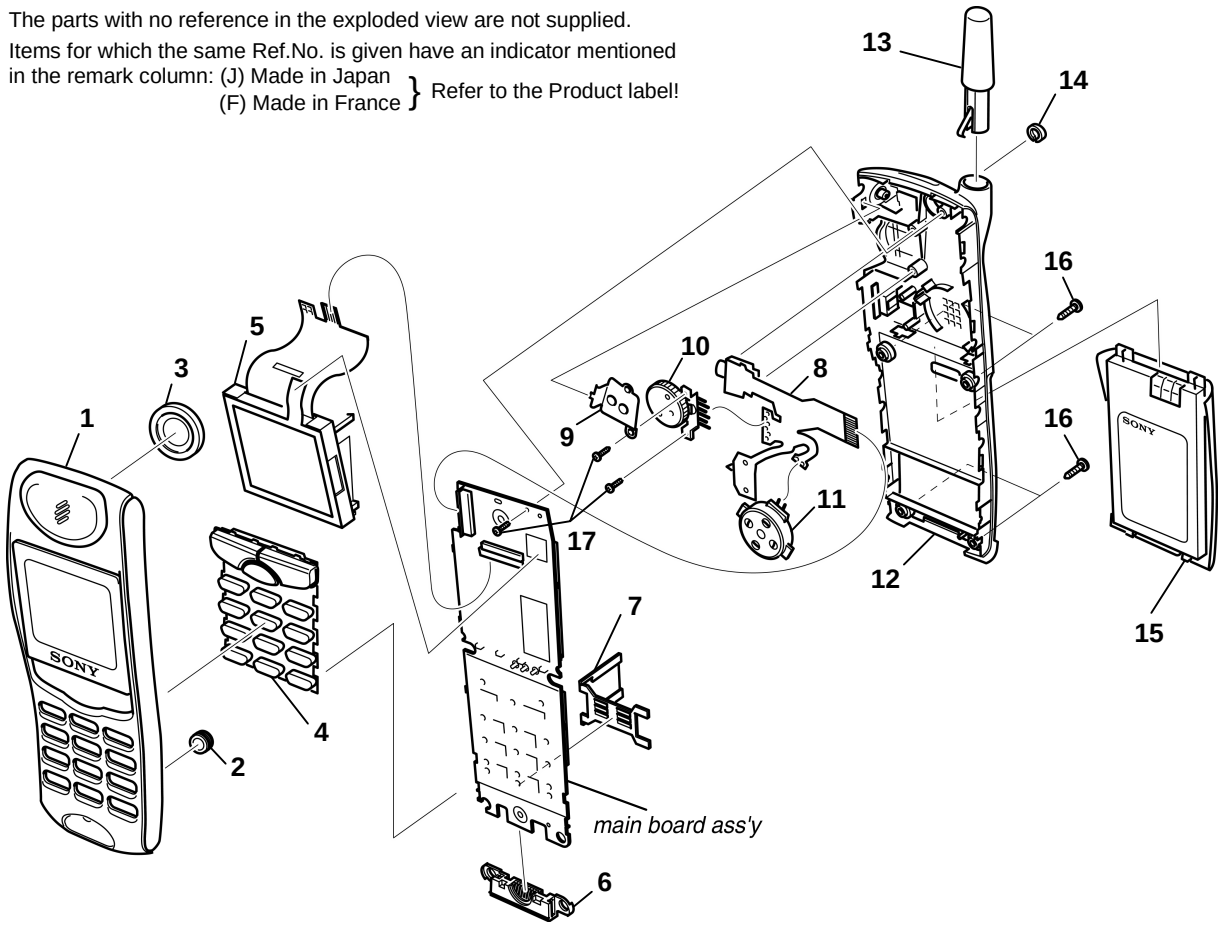
NOTES

NOTES

SECTION 7
SPARE PARTS AND ACCESSORIES LIST

Note:

- The parts with no reference in the exploded view are not supplied.
- Items for which the same Ref.No. is given have an indicator mentioned in the remark column: (J) Made in Japan, (F) Made in France } Refer to the Product label!



Ref. No.	Part No.	Description	Remark
1	A-3649-058-A	CABINET, UPPER	SILVER (F)
	A-3649-060-A	CABINET, UPPER	BLUE (F)
	A-3649-061-A	CABINET, UPPER	SILVER (J)
	A-3649-062-A	CABINET, UPPER	BLUE (J)
2	1-542-441-21	MICROPHONE	
3	A-3649-059-A	LOUDSPEAKER	
4	3-045-009-01	KEYPAD	
5	A-3622-447-A	LCD, ASSY	
6	1-794-665-11	CONNECTOR EXTERNAL	
7	1-793-605-22	SIM CONNECTOR	
8	A-3622-449-A	FLEX PWB, ASSY	
9	3-221-897-01	PLATE, HEADSET JACK	
10	1-418-426-21	JOG, CODER	
11	1-529-799-21	MULTIACTOR	
12	A-3649-049-A	CABINET, LOWER	(F)
	A-3649-053-A	CABINET, LOWER	(J)
13	1-754-151-21	ANTENNA	
14	3-045-022-01	CAP, RF	
15	1-756-116-11	BATTERY PACK, 640	(F)
	1-756-116-21	BATTERY PACK, 640	(J)
16	3-926-356-01	SCREWS	1.7x6
17	3-015-033-01	SCREWS	1.4x4

Ref. No.	Part No.	Description	Remark
	ACCESSORIES & PACKING MATERIALS		
	**********		
	1-476 203-11	ADAPTER, AC	EU (QN-3AC1)
	1-476-204-11	ADAPTER, AC	UK (QN-3AC2)
	3-221-873-11	MANUAL, INSTRUCTION	GERMAN
	3-221-873-21	MANUAL, INSTRUCTION	ENGLISH
	3-221-873-41	MANUAL, INSTRUCTION	ITALIAN
	3-221-873-51	MANUAL, INSTRUCTION	FRENCH
	3-221-873-61	MANUAL, INSTRUCTION	DUTCH
	3-221-873-71	MANUAL, INSTRUCTION	SPANISH
	3-221-873-91	MANUAL, INSTRUCTION	PORTUGUESE
	3-221-878-11	MANUAL, INSTRUCTION	CZECH
	3-221-878-21	MANUAL, INSTRUCTION	POLISH
	3-221-878-31	MANUAL, INSTRUCTION	TURKISH
	3-221-878-41	MANUAL, INSTRUCTION	GREEK
	3-221-878-51	MANUAL, INSTRUCTION	DANISH
	3-221-878-61	MANUAL, INSTRUCTION	SWEDISH
	3-221-878-71	MANUAL, INSTRUCTION	FINISH
	3-221-878-81	MANUAL, INSTRUCTION	NORWEGIAN
	1-756-111-11	BATTERY PACK, 920	Optional Accessory

9-885-007-94

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